



LUMINAIRE TESTING LABORATORY, INC.

SUSTAINING
MEMBER
of the
IESNA

905 Harrison Street · Allentown, PA 18103 · 610-770-1044 · Fax 610-770-8912 · www.LuminaireTesting.com

LTL NUMBER: 15700
PREPARED FOR: C. CRANE COMPANY, INC.
CATALOG NUMBER: NS6W083 BTE GEOBULB COOL WHITE (1-3 CW)
LUMINAIRE: ONE VBU A19 LED REPLACEMENT LAMP
LAMP: EIGHT WHITE LEDS
LED POWER SUPPLY: INTEGRAL
POWER FACTOR: 0.839
ELECTRICAL VALUES: 120.0VAC, 0.0684A, 6.885W
NOTE: THIS TEST WAS PERFORMED USING THE CALIBRATED
PHOTODETECTOR METHOD OF ABSOLUTE PHOTOMETRY.*

DATE: 06-09-2009

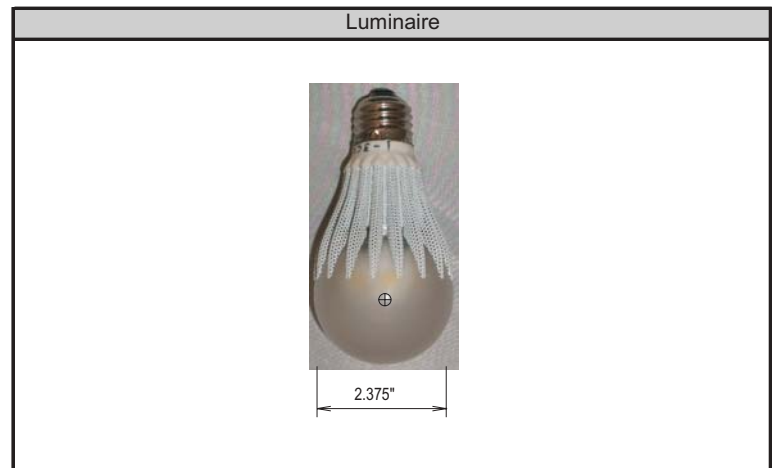
Candela Distribution

	0	22.5	45	67.5	90	112.5	135	157.5	180	202.5	225	247.5	270	292.5	315	337.5	Flux
0	124	124	124	124	124	124	124	124	124	124	124	124	124	124	124	124	
5	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	11.6
15	116	116	116	116	116	116	116	116	116	116	116	116	116	116	116	116	32.6
25	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	48.6
35	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95	59.8
45	87	87	87	87	87	87	87	87	87	87	87	87	87	87	87	87	67.3
55	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	70.8
65	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	69.0
75	59	59	59	59	59	59	59	59	59	59	59	59	59	59	59	59	61.9
85	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	51.3
90	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	
95	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	39.0
105	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	27.0
115	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	16.6
125	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	8.4
135	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	3.4
145	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1.3
155	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.6
165	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.3
175	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.1
180	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

Zonal Lumen Summary

Zone	Lumens	% of Lamp	% of Luminaire
0-30	92.9	N/A	16.3%
0-40	152.7	N/A	26.8%
0-60	290.8	N/A	51.1%
0-90	473.1	N/A	83.0%
90-180	96.6	N/A	17.0%
0-180	569.7	N/A	100.0%

Total lumen Output 569.7 Lumens
Luminaire efficacy: 82.7 Lumens per Watt
CIE Type: Semi-Direct
Spacing Criterion: 1.21



Approved By: MG

*DATA WAS ACQUIRED USING THE CALIBRATED PHOTODETECTOR METHOD OF ABSOLUTE PHOTOMETRY. A UDT MODEL #211 PHOTODETECTOR AND UDT MODEL #S370 OPTOMETER COMBINATION WERE USED AS A STANDARD. A SPECTRAL MISMATCH CORRECTION FACTOR WAS EMPLOYED BASED ON THE SPECTRAL RESPONSIVITY OF THE PHOTODETECTOR AND THE SPECTRAL POWER DISTRIBUTION OF THE TEST SUBJECT.

TESTING WAS PERFORMED IN ACCORDANCE WITH IES LM-79-08.

TEST ANGULAR INCREMENTS AND REPORT FORMATTING WAS BASED ON IES LM-41-98 AND LM-46-04.



Candela Tabulation (5 degree Vertical Increments)

	0	22.5	45	67.5	90	112.5	135	157.5	180	202.5	225	247.5	270	292.5	315	337.5
0	124	124	124	124	124	124	124	124	124	124	124	124	124	124	124	124
5	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123	123
10	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120
15	116	116	116	116	116	116	116	116	116	116	116	116	116	116	116	116
20	111	111	111	111	111	111	111	111	111	111	111	111	111	111	111	111
25	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105
30	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
35	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95
40	91	91	91	91	91	91	91	91	91	91	91	91	91	91	91	91
45	87	87	87	87	87	87	87	87	87	87	87	87	87	87	87	87
50	83	83	83	83	83	83	83	83	83	83	83	83	83	83	83	83
55	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79
60	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74
65	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70
70	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64
75	59	59	59	59	59	59	59	59	59	59	59	59	59	59	59	59
80	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53
85	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47
90	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41
95	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36
100	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
105	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
110	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21
115	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17
120	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13
125	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
130	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
135	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
140	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
145	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
150	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
155	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
160	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
165	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
170	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
175	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
180	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Zonal Lumen Tabulation (5 degree zones)

Zone	Lumens	Zone	Lumens	Zone	Lumens	Zone	Lumens
0-5	3.0	45-50	34.4	90-95	21.1	135-140	1.3
5-10	8.7	50-55	35.4	95-100	17.9	140-145	0.8
10-15	14.0	55-60	35.5	100-105	14.9	145-150	0.5
15-20	18.7	60-65	35.1	105-110	12.1	150-155	0.4
20-25	22.6	65-70	33.9	110-115	9.5	155-160	0.2
25-30	26.0	70-75	32.1	115-120	7.1	160-165	0.2
30-35	28.8	75-80	29.8	120-125	5.0	165-170	0.1
35-40	31.0	80-85	27.1	125-130	3.3	170-175	0.1
40-45	32.9	85-90	24.2	130-135	2.1	175-180	0.0



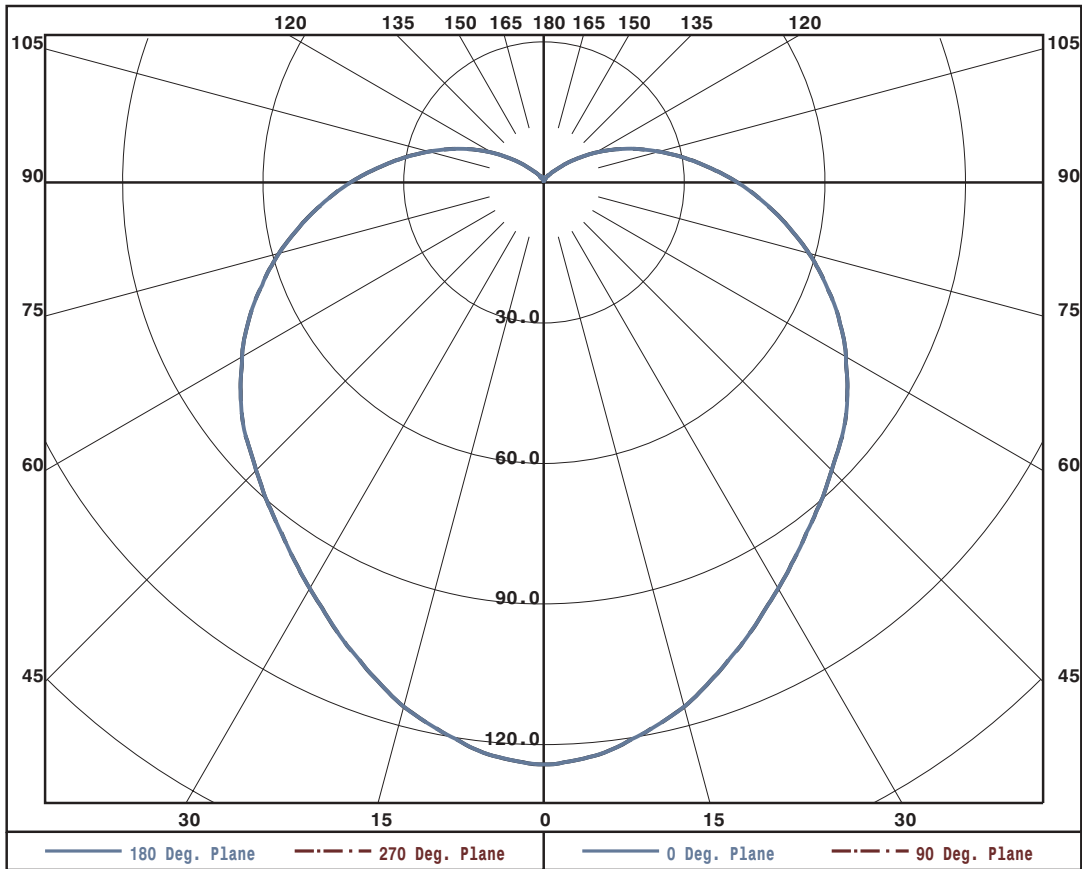
Utilization of Lumens - Zonal Cavity Method												
Effective Floor Cavity Reflectance 20%												
Ceiling Cavity Reflectance	90				80				70			
Wall Reflectance	70	50	30	10	70	50	30	10	70	50	30	10
Room Cavity Ratio (RCR)	** Values are expressed as Lumens delivered to the task surface **											
0	682.9	682.9	682.9	682.9	655.2	655.2	655.2	655.2	628.7	628.7	628.7	628.7
1	603.1	562.8	527	494.8	575.2	538.9	506.5	477.2	548.6	516.1	486.8	460.2
2	541.3	478.4	426.9	384.1	514.7	458	411.1	371.7	489.5	438.5	395.8	359.6
3	489.3	413.1	355	309.2	464.5	395.7	342.4	300	441.1	379	330.2	290.9
4	445.3	361.6	301.3	255.9	422.5	346.7	291.1	248.7	401	332.3	281.2	241.6
5	407.5	320	260	216.3	386.7	307.2	251.6	210.5	367.2	294.8	243.3	204.8
6	374.7	285.9	227.4	186	355.9	274.8	220.3	181.3	338.1	264	213.4	176.6
7	346.2	257.5	201.2	162.2	329.1	247.8	195.2	158.3	313	238.5	189.3	154.3
8	321.2	233.6	179.7	143.1	305.7	225.2	174.5	139.7	291	216.9	169.5	136.4
9	299.2	213.4	161.9	127.5	285.1	205.9	157.4	124.6	271.7	198.6	153	121.8
10	279.7	196	146.9	114.6	266.9	189.3	143	112.1	254.7	182.9	139.1	109.6

Ceiling Cavity Reflectance	50				30			10			0
Wall Reflectance	70	50	30	10	50	30	10	50	30	10	0
Room Cavity Ratio (RCR)	** Values are expressed as Lumens delivered to the task surface **										
0	579.3	579.3	579.3	579.3	534.1	534.1	534.1	492.6	492.6	492.6	473.1
1	499.4	473.4	449.6	427.7	434.1	415	397.3	397.9	382.8	368.7	349
2	442.9	401.8	366.7	336.4	368	339.4	314.2	336.8	313.6	293	274.1
3	398	347.5	306.8	273.2	318.4	284.6	256.2	291.4	263.6	239.8	222
4	361.6	305.2	262	227.7	280.1	243.7	214.2	256.7	226.2	201.1	184.4
5	331.2	271.4	227.4	193.6	249.6	212.1	182.6	229.2	197.4	171.9	156.4
6	305.5	243.7	199.9	167.3	224.7	187	158.2	206.9	174.6	149.3	134.8
7	283.3	220.7	177.8	146.5	204	166.7	138.9	188.4	156	131.3	117.9
8	264	201.3	159.6	129.8	186.6	150	123.2	172.8	140.7	116.8	104.2
9	247.1	184.8	144.4	116.1	171.7	136	110.4	159.4	128	104.9	93.14
10	232.2	170.6	131.6	104.6	159	124.3	99.76	148	117.2	94.92	83.95

Average Luminance Table (cd/m²)

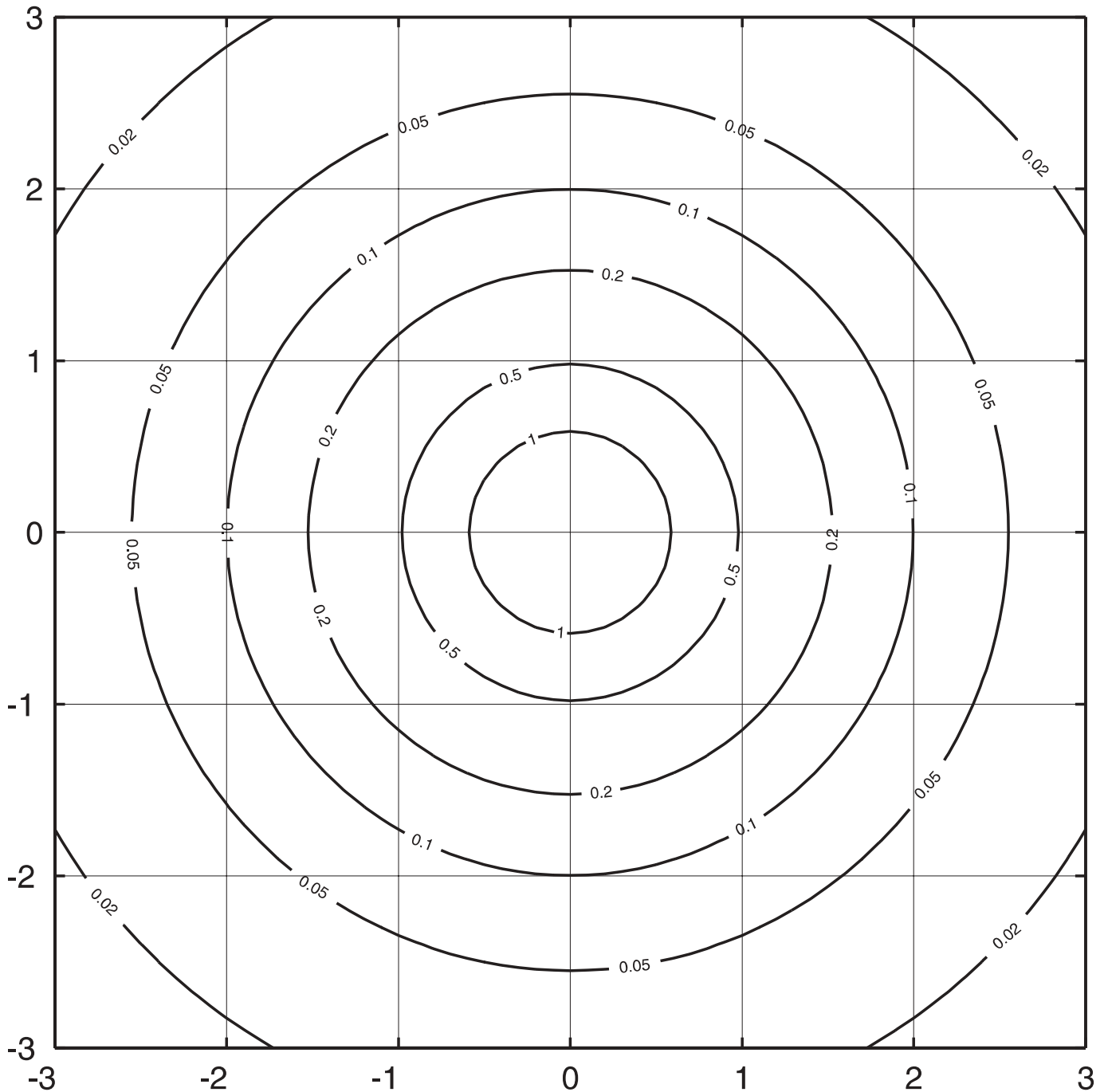
	0	45	90
0	43486	43486	43486
45	27348	27348	27348
55	23714	23714	23714
65	20557	20557	20557
75	17588	17588	17588
85	14778	14778	14778

THIS TEST WAS CONDUCTED USING PHOTOMETRY TECHNIQUES ACCORDING TO STANDARD IES PROCEDURES. THE USER MUST THEREFORE USE CAUTION IN THE FOLLOWING SITUATIONS: 1) THIS TEST WAS PERFORMED USING A SPECIFIC BALLAST/LAMP COMBINATION. EXTRAPOLATION OF THESE DATA FOR OTHER BALLAST/LAMP COMBINATIONS MAY PRODUCE ERRONEOUS RESULTS. 2) THIS TEST WAS CONDUCTED IN A CONTROLLED LABORATORY ENVIRONMENT WHERE THE AMBIENT TEMPERATURE WAS HELD AT 25°C ±1°C. FIELD PERFORMANCE MAY DIFFER PARTICULARLY IN REGARDS TO CHANGE IN LUMINOUS OUTPUT AS A RESULT OF DIFFERENCE IN AMBIENT TEMPERATURE AND METHOD OF MOUNTING THE LUMINAIRE.





VALUES BASED ON 8.00 FOOT MOUNTING HEIGHT

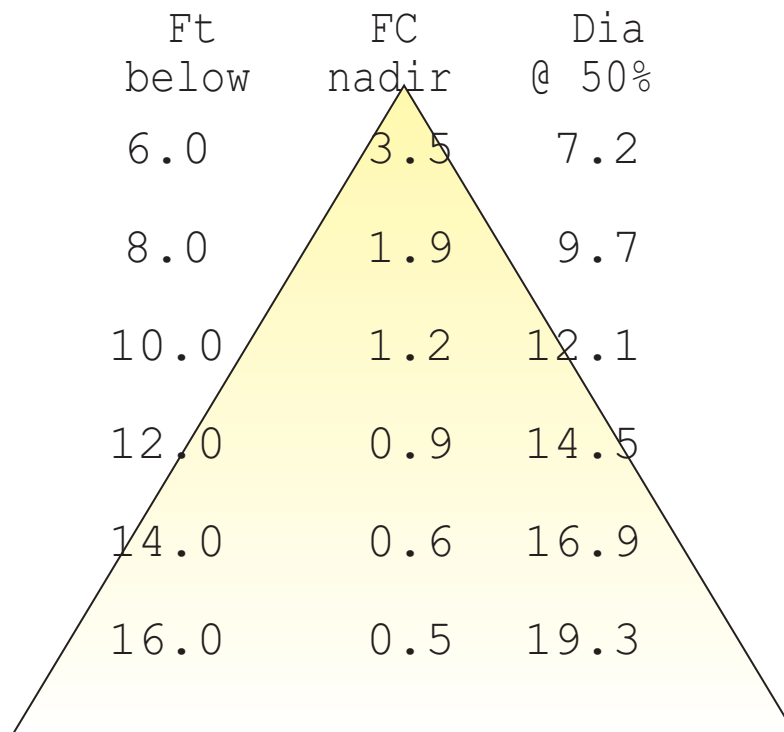


LTL REPORT NUMBER 15700-ISOFOOTCANDLE VALUES ARE BASED ON A MOUNTING HEIGHT OF 8', WITH THE LUMINAIRE LOCATED AT 0,0. ISOFOOTCANDLE VALUES ARE CALCULATED FROM THE DIRECT CONTRIBUTION FROM THE LUMINAIRE ONLY. WALL, CEILING, AND FLOOR CONTRIBUTION IS NOT INCLUDED.



LTL TEST #15700

CIRCLE-OF-LIGHT



NOTE: 'Dia' spans the edge-points that are half of nadir FC



INITIAL ILLUMINATION OF 50 FOOTCANDLES USING LTL TEST NUMBER 15700
LUMINAIRE SUSPENSION LENGTH = 1.5
WORKING PLANE HEIGHT = 2.50
FLOOR REFLECTANCE = 20

Table with columns for ROOM HT, CEIL RF, WALL RF, WIDTH, and LENGTH, and rows for room heights 8, 9, 10, and 12. Values represent footcandle measurements at various distances.

QUANTITY OF LUMINAIRES